

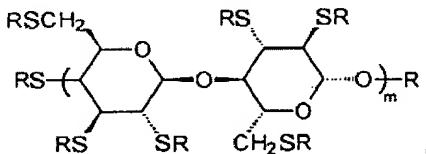
**REMARKS**

At the outset, the Examiner is thanked for the thorough review and consideration of the subject application. The Final Office Action of May 15, 2003 has been received and its contents carefully reviewed.

The Examiner rejected claims 1-6 under 35 U.S.C. § 102(e) as being anticipated by Kwon et al. (U.S. Pat. No. 6,399,165); and rejected claims 1-6 under the judicially created doctrine of double patenting over claims 1-34 of Kwon et al. Applicants respectfully traverse these rejections and hereby request reconsideration.

The rejection of claims 1-6 under 35 U.S.C. § 102(e) as being anticipated by Kwon et al. is respectfully traversed and reconsideration is requested.

Claim 1 is allowable over the cited references in that claim 1 recites a combination of elements including, for example “a first alignment layer on the first substrate, wherein the first alignment layer includes



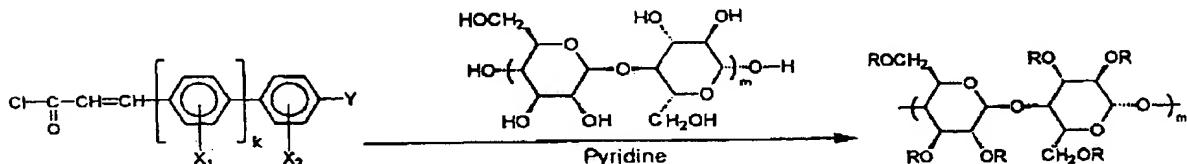
(spacer S is oxygen, m = 10~10,000), the functional

group R includes at least one of a group consisting of photo-sensitive constituents and non-photo-sensitive constituents, the photo-sensitive constituents include a material selected from the group consisting of cinnamoyl derivatives, the non-photo-sensitive constituents include a material selected from the group consisting of  $C_nH_{2n}$ ,  $C_nH_{2n+1}$ ,  $C_nH_{2n}OH$ ,  $COC_nH_{2n+1}$ ,  $COC_nH_{2n}$ ,  $C_nH_{2n+1-x}F_x$ ,  $C_nH_{2n-(x-1)}F_{(x-1)}$ ,  $C_nH_{2n-x}F_xOH$ ,  $COC_nH_{2n+1-x}F_x$  (n = 1~10, x = 1~2n+1), and a combination thereof...” None of the cited references, including Kwon et al., singly or in combination, teaches or suggests at least this feature of the claimed invention. Accordingly,

Applicants respectfully submit that claims 2-6 which depend from claim 1 are also allowable over the cited references.

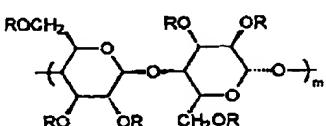
Under the doctrine of inherency, objective, extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be so recognized by persons of ordinary skill. In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied reference. Inherency, however, cannot be established by probabilities or possibilities. See M.P.E.P. § 2112.

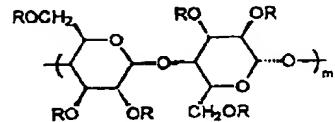
In rejecting claims 1-6 of the present invention under 35 U.S.C. § 102(e) as being anticipated by Kwon et al., the Examiner cites columns 8-12 and concludes that "...since...



shows that the H and OH groups [of the cellulose compound] are replaced by R... it is the examiner's position that the H and OH groups on the ends of the pyranose polymer are also replaced by R during the synthesis, with the resultant ends of the pyranose polymer having OR groups." (Office Action at 4.)

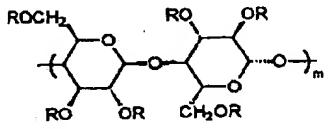
Assuming *arguendo* that the reasoning set forth above by the Examiner is correct, Applicants respectfully submit, however, no evidence has been presented showing that the ends

of the pyranose polymer  of Kwon et al. must necessarily include OR

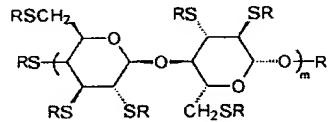


groups at its ends. For example, support for the pyranose polymer within the Examiner's citation of Kwon et al. at columns 8-12 is found at column 6, lines 57-62 of Kwon et al., stating that cellulose cinnamate is synthesized by providing “[a] mixture of 0.05 mol cinnamoyl chloride..., 0.01 mol cellulose, and 0.04 mol pyridine in 20 ml nitrobenzene [that] is heated for 24 hours at 120°C., cooled, and diluted in methanol.” The present application, however, describes the synthesis of hydroxyethyl (HE)-cellulose cinnamate at page 16, lines 10-15 “[a] mixture of 0.05 mol cinnamoyl chloride..., 0.01 mol HE-cellulose, and 0.06 mol pyridine in 20 ml nitrobenzene is heated for 24 hours at 80°C., cooled, and diluted in methanol.” Accordingly, Applicants respectfully submit no evidence has been provided that the

pyranose polymer



of Kwon et al. must necessarily exist as



, where S is oxygen, as is presently claimed at least because the compound of Kwon et al. and the presently claimed compound are formed according to different processes. In light of the teachings of Kwon et al., as a whole, and since the Examiner has provided no evidentiary support showing, with absolute certainty, that the aforementioned synthesis of Kwon et al. must produce the presently claimed compound, Applicants respectfully submit the Examiner has failed to establish a *prima facie* case of inherency regarding the presently claimed invention.

The rejection of claims 1-6 under the judicially created doctrine of double patenting over claims 1-34 of Kwon et al. is respectfully traversed and reconsideration is requested.

According to M.P.E.P. § 804, the claim in the application must define an invention that is merely an obvious variation of an invention claimed in the patent reference when a non-statutory basis exists for a double patenting rejection. A pending claim must be rejected under the doctrine of obviousness-type double patenting: (1) when the claimed subject matter is not patentably distinct from the claimed subject matter claimed of a commonly owned patent reference; and (2) when the issuance of a second patent would provide an unjustified extension of the term of the right to exclude, granted by a patent. Further, an obviousness-type double patenting rejection is analogous to a rejection under 35 U.S.C. 103 and any analysis employed in an obviousness-type double patenting rejection must necessarily parallel the guidelines for analysis of a 35 U.S.C. 103 obviousness determination.

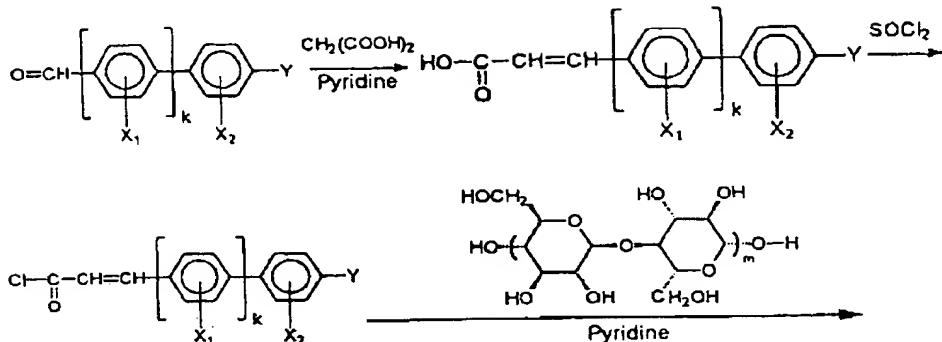
While the disclosure of a patent reference cannot be used as prior art when considering whether the invention defined in a claim of an application is an obvious variation of the invention defined in the claim of the patent reference, portions of the specification which provide support for the claims in the patent reference can be considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent reference.

In rejecting claims 1-6 of the present invention under the judicially created doctrine of double patenting over claims 1-34 of Kwon et al., the Examiner stated "...it would have been obvious to one of ordinary skill in the art that the H and OH groups on the ends of the pyranose polymer are also replaced by R when using the commonly known synthetic route... since the H and OH groups in the body of the pyranose polymer are replaced by R in the commonly known synthetic route of R group modification of the starting pyranose polymer." (Office Action at 5.)

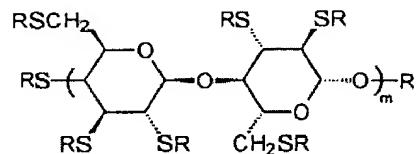
For similar reasons discussed above with respect to the rejection of claims 1-6 under 35 U.S.C. § 102(e) as being anticipated by Kwon et al., Applicants respectfully submit the presently claimed invention is not an obvious variation of the invention defined by claims 1-34 of Kwon et al.

Further, in stating "...it would have been obvious to one of ordinary skill in the art that the H and OH groups on the ends of the pyranose polymer are also replaced by R... since..." it appears as though the term "obvious" is used to describe the presence of the functional group R as being "readily apparent", "easily perceived", or "easily understood". Applicants respectfully submit however, use of the term "obvious" in this sense closely mirrors the meaning of the term "inherent" as is used to define the scope of a disclosure in a reference. The standard by which the propriety of a non-statutory double patenting rejection is examined is not how easily perceived a particular undisclosed feature is found to exist within a reference. Rather, the basis for a non-statutory double patenting rejection exists when the pending claim defines an invention that is an obvious variation of an invention claimed in the patent reference. Applicants respectfully submit similar arguments made above with respect to the rejection of claims 1-6 under 35 U.S.C. § 102(e) as being anticipated by Kwon et al. are equally applicable with respect to the present double patenting rejection.

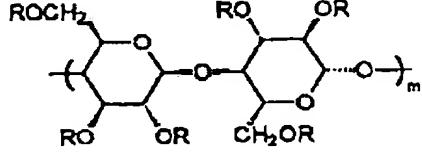
Moreover, Applicants note that Kwon et al. was used to both anticipate the presently claimed invention under 35 U.S.C. § 102(e) and to render obvious the presently claimed invention under the judicially created doctrine of double patenting. By applying both anticipatory and obviousness-type double patenting rejections against claims 1-6, the Examiner essentially states that the chemical reaction of Kwon et al., namely



is known by those skilled in the art to inherently (i.e., as a matter of scientific fact or certainty)



produce the presently claimed compound having the formula



where S is oxygen, while simultaneously stating that the aforementioned claimed compound is

an obvious variation of the claimed product

, formed by the

aforementioned chemical reaction of Kwon et al.

Applicants respectfully submit, however, that an undisclosed feature of any reference cannot both exist as an absolute certainty (being inherent) while, at the same time, existing only as a mere possibility (being obvious). Inherency (absolute presence) of a particular undisclosed feature in a reference necessarily eliminates its obviousness (possible presence) within the reference. Conversely, obviousness of a particular undisclosed feature in a reference necessarily eliminates its inherency within the reference.

Accordingly, Applicants respectfully request the Examiner to clarify whether the presently claimed invention is inherently disclosed within Kwon et al. and must, as a matter of

Application No.: 09/534,723  
Art Unit: 1772  
Reply to Office Action of May 15, 2003

Docket No.: 8733.229.00  
Reply Dated September 15, 2003  
Page 8 of 8

certainty, exist, or whether the presently claimed invention is merely an obvious variation of the claimed invention of Kwon et al. that may or may not exist.

If the Examiner deems that a telephone call would further the prosecution of this application, the Examiner is invited to call the undersigned at (202) 496-7500. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

Respectfully submitted,

Dated: September 15, 2003

By   
Rebecca Goldman Rudich  
Registration No.: 41,786

MCKENNA LONG & ALDRIDGE LLP  
1900 K Street, N.W.  
Washington, DC 20006  
(202) 496-7500  
Attorneys for Applicants

  
30827  
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